

WHAT IS CLAIMED IS:

- SUB
A
1. A method of generating an addressable array of biopolymers on a substrate, comprising:
 - (a) obtaining the biopolymers from individual identified vessels;
 - (b) depositing the biopolymers onto different regions of the substrate so as to fabricate the array;
 - (c) saving in a memory a map of the identity of the vessels to the corresponding regions of the substrate onto which the biopolymers from respective vessels are deposited, in association with a map identifier;
 - (d) applying the map identifier to the substrate or a housing carrying the substrate;
 - (d) shipping the fabricated array with applied map identifier to a remote location.
 2. A method according to claim 1 wherein the biopolymers are polynucleotides.
 3. A method according to claim 2 wherein the biopolymers are DNA.
 4. A method according to claim 1 wherein the memory is a database, the method additionally comprising obtaining the identity map from the memory and communicating the identity map to a remote location in response to receiving a communication of the map identifier from the remote location.
 5. A method according to claim 1 wherein the memory comprises a portable storage medium, the method additionally comprising shipping the portable storage medium to a remote location.
 6. A method according to claim 5 wherein the portable storage medium is shipped to the same remote location as the array.
 7. A method according to claim 4 additionally comprising applying a communication address to the substrate or a housing carrying the substrate, which communication address identifies a remote location from which the identity map will be communicated in response to a received communication of the associated map identifier.

8. A method of generating, at a central fabrication station, addressable arrays of biopolymers on multiple substrates, comprising:
- (a) receiving from each of multiple remote locations, a set of biopolymers in individual identified vessels;
 - (b) for each received biopolymer set, depositing biopolymers obtained from the set onto different regions of the substrate so as to fabricate an array;
 - (c) saving in a memory a map of the identity of the vessels of each set to the corresponding regions of the substrate onto which the biopolymers from respective vessels of the set are deposited, in association with a map identifier;
 - (d) applying the map identifier to the corresponding substrate or a housing carrying the corresponding substrate; and
 - (d) shipping each of the fabricated arrays with applied map identifier to one or more of the remote stations.
9. A method according to claim 8 wherein the biopolymers are polynucleotides.
10. A method according to claim 2 wherein the biopolymers are DNA.
11. A method according to claim 8 wherein the memory is a database, the method additionally comprising obtaining identity maps from the memory and communicating the identity maps to a remote location in response to receiving a communication of associated map identifiers from remote locations.
12. A method according to claim 8 wherein for each of multiple arrays the corresponding identity map and associated identifier are saved on a memory comprising a portable computer readable storage medium, the method additionally comprising shipping the portable storage mediums to multiple remote locations.
13. A method according to claim 12 wherein each of the portable storage mediums are shipped with the corresponding fabricated array to the same remote location from which the set of biopolymers used in fabricating that array was received.

14. A method according to claim 8 additionally comprising applying a same communication address to each of the substrates or housings carrying the substrates, which communication address identifies a remote location from which each identity map will be communicated in response to a received communication of the associated map identifier.
15. A method of using an addressable array of biopolymers on a substrate, comprising:
- (a) receiving the addressable array and a map identifier carried on the array substrate or a housing for the array substrate, which map identifier corresponds to a map of the identity of respective vessels from which the biopolymers were obtained to the corresponding regions of the substrate onto which the biopolymers from respective vessels are deposited; and
 - (b) machine reading the map identifier from the array substrate or housing and obtaining the corresponding identity map from a memory carrying the map identifier in association with the identity map.
16. A method according to claim 15 additionally comprising obtaining from a memory additional information on the array layout using the obtained identity map.
17. A method according to claim 15 additionally comprising:
forwarding to a remote fabrication station, the vessels containing respective biopolymers.
18. A method according to claim 15 wherein the memory is a remote database, the method additionally comprising communicating the map identifier to the remote database and receiving in response the identity map.
19. A method according to claim 15 wherein the memory is a portable storage medium received from a remote location.
20. A method according to claim 15 additionally comprising:
machine reading a communication address on the substrate or the housing, and

communicating the map identifier to the communication address and receiving the associated identity map in response.

21. A method according to claim 15 additionally comprising exposing the array to a sample; and reading the array following the exposure to the sample.
22. A method according to claim 21 wherein the array is read in a same apparatus in which the map identifier is read.
23. A method comprising forwarding a result of an array reading obtained by a method of claim 21, to a remote location.
24. A method comprising transmitting or receiving data representing a result of an array reading obtained by a method of claim 21.
- 25.. A method according to claim 16 additionally comprising either controlling reading of the array or processing information obtained from reading the array, in accordance with the obtained additional array layout information.
26. An apparatus for producing an addressable array of biopolymers on a substrate, comprising:
 - (a) an array fabricator to deposit the biopolymers onto different regions of the substrate so as to fabricate the array;
 - (b) a processor to save in a memory a map of the identity of respective vessels from which the biopolymers are obtained to the corresponding regions of the substrate onto which the biopolymers from respective vessels are deposited, in association with a map identifier;
 - (c) a writing system which applies the map identifier to the substrate or a housing carrying the substrate.

27. An apparatus according to claim 26 wherein the processor causes the identity map to be communicated to a remote location in response to receipt of the associated map identifier from that remote location.
28. An apparatus according to claim 27, additionally comprising a memory in which the processor saves the memory map and associated map identifier.
29. An apparatus according to claim 26 additionally comprising the memory which includes a writer for a computer readable portable storage medium.
30. An apparatus for receiving an addressable array of biopolymers on a substrate, comprising:
- (a) a reader which reads a map identifier carried on an array substrate or a housing for the array substrate;
 - (b) a processor which obtains an identity map based on the map identifier, which identity map comprises a map of the identity of respective vessels from which the biopolymers were obtained to the corresponding regions of the substrate onto which the biopolymers from respective vessels were deposited.
31. An apparatus according to claim 30 additionally comprising a memory, and wherein the processor obtains from the memory additional information on the array layout using the obtained identity map.
32. An apparatus according to claim 30 wherein the processor communicates the map identifier to a remote location and receives the identity map in response.
33. An apparatus according to claim 32 wherein the processor obtains the memory map from a computer readable portable storage medium.
34. An apparatus according to claim 32 having a reader which reads a communication address on the substrate or the housing and communicates the map identifier to the read address.

35. An array reader to read an addressable array of biopolymers on a substrate, comprising:
- (a) a holder to receive the array or a housing carrying the array;
 - (b) a sensor to read signals from respective features on the array;
 - (c) a reader which reads a map identifier carried on an array substrate or a housing for the array substrate, while the array is in the holder; and
 - (d) a processor which obtains an identity map based on the read map identifier, which identity map comprises a map of the identity of respective vessels from which the biopolymers were obtained to the corresponding regions of the substrate onto which the biopolymers from respective vessels were deposited.
36. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer communicating with a fabricator to fabricate an addressable array of biopolymers on a substrate, the steps of:
- (a) obtaining a map on the identity of respective vessels from which the biopolymers were obtained to the corresponding regions of the substrate onto which the biopolymers from respective vessels are deposited;
 - (c) saving the identity map in a memory in association with a map identifier;
 - (d) applying the map identifier to the substrate or a housing carrying the substrate.
37. A computer program product according to claim 36 wherein the program additionally generates the identity map.
38. A computer program product according to claim 36 wherein the map is generated based upon one or more parameters of the fabricator.
39. A computer program according to claim 36 wherein the program additionally applies a communication address to the substrate or a housing carrying the substrate, which communication address identifies a remote location from which the identity map will be communicated in response to a received communication of the associated map identifier.

40. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:
- (a) receiving a map identifier communicated from a remote location;
 - (b) in response to the received map identifier, obtaining from a database a map on the identity of respective vessels from which biopolymers were obtained, to the corresponding regions of a substrate onto which the biopolymers were deposited to fabricate an array; and
 - (c) communicating the identity map to the remote location.
41. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:
- (a) reading a map identifier carried on an array substrate or a housing for the array substrate;
 - (b) obtaining, based on the identifier, a map on the identity of respective vessels from which biopolymers were obtained, to the corresponding regions of a substrate onto which the biopolymers were deposited to fabricate an array
42. A computer program product according to claim 41 wherein the program additionally obtains from a memory additional information on the array layout using the obtained identity map.
43. A computer program product according to claim 41 wherein the identity map is obtained by communicating the map identifier to a remote location and receiving the identity map in response.
44. A computer program product according to claim 43 wherein the program additionally reads a communication address on the substrate or the housing and wherein the map identifier is communicated to the remote location by communicating the map identifier to the read address.